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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,854	07/24/2001	Isao Nakatani	2001_1048A	4033

513 7590 10/20/2005

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WASHINGTON, DC 20006-1021

EXAMINER
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UMEZ ERONINI, LYNETTE T

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

15

<b>Office Action Summary</b>	<b>Application No.</b> 09/910,854	<b>Applicant(s)</b> NAKATANI ET AL.	
	<b>Examiner</b> Lynette T. Umez-Eronini	<b>Art Unit</b> 1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 36-39 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 36-39 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 7/24/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☒ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Request for Continued Examination*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 8/31/2005 has been entered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 36-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Eger (US 3,642,548).

Eger teaches a masking layer comprising a metal such as hafnium, zirconium, tungsten or tantalum (column 1, lines 70-71; column 3, lines 16-18; and claim 4), which reads on,

A masking material and wherein the masking material is respectively tantalum, tungsten, zirconium, and hafnium, **in claims 36-39.**

Since Eger's masking material is the same masking material as those claimed by the applicants, then using Eger's masking material in the same manner as the claimed invention would inherently result in a masking material for dry etching of a magnetic material by using a mixed gas of carbon monoxide and a nitrogenous compound as etching gas, which comprises a metal having a specific physical property that its melting or boiling point, when it is converted into a nitride or carbide is higher than that of in the form of single metal and wherein the masking material (Ta, W, Zr, and Hf) is in contact with the etching gas.

It is noted that no patentable weight is given to a masking material is in contact with the etching gas because the product/composition is defined by its structure/chemical structure. Applicants' claims are directed to the product/composition and not a process.

### ***Response to Arguments***

4. Applicant's arguments filed 8/31/2005 have been fully considered but they are not persuasive. Applicants traverse the 102(b) rejection of claims 36-39 over Eger (US 3,642,548). Applicants argue Eger fails to teach a masking layer that comprising Hf, Zr, W or Ta, which is in contact with a mixed gas of CO and a nitrogenous compound and there is no reference teaching or suggesting, "the masking material (tantalum, tungsten, zirconium and hafnium) . . . is in contact with the etching gas. Applicants' argument is acknowledged and is unpersuasive because Eger teaches a masking layer comprising Hf, Zr, W or Ta (column 1, lines 70-71; column 3, lines 16-18; and claim 4). However,

Art Unit: 1765

since Eger teaches the same materials as claimed by applicants, then using these materials in the same manner as claimed by applicants would inherently result the same in a masking material for dry etching of a magnetic material by using a mixed gas of carbon monoxide and a nitrogenous compound as etching gas, which comprises a metal having a specific physical property that its melting or boiling point, when it is converted into a nitride or carbide is higher than that of in the form of single metal and wherein the masking material (Ta, W, Zr, and Hf) is in contact with the etching gas.

No patentable weight is given to: a masking material is in contact with the etching gas because the product/composition is defined by its structure/chemical structure. Applicants' claims are directed to the product/composition and not a process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynette T. Umez-Eronini whose telephone number is 571-272-1470. The examiner is normally unavailable on the First Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1765

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ltue

October 12, 2005

**NADINE S. HERTON**  
**SUPERVISOR, PATENT EXAMINER**

